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(54) Title: **EXPRESSION OF A RECOMBINANT TRANSGENE**

A. 5'—Promoter— α -coding— α -IRES—3'UTR→3'

B. 5'— α -coding— α -IRES—3'UTR→3'

C. 5'— α -3'UTR—IRES—coding→3'

(57) Abstract: A system for expression of a heterologous polypeptide in a transgenic host cell is disclosed. The system is based upon a transgene comprising a eukaryotic promoter operably linked to a DNA sequence comprising, in the 5' to 3' direction, a DNA sequence complementary to a sequence encoding a heterologous polypeptide, a DNA sequence complementary to an internal ribosome entry site, and a DNA sequence corresponding to a 3' untranslated region of a positive strand single-stranded RNA virus. Following introduction of a stimulus, the host cell synthesizes an RNA molecule complementary to a recombinant RNA encoded by the transgene. The stimulus can be a positive strand single-stranded RNA virus or a nucleic acid thereof. Because the complement of the recombinant RNA comprises an internal ribosome entry site and a sequence encoding a heterologous polypeptide, the host cell can synthesize the heterologous polypeptide.



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